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10/018,851	12/17/2001	Shoji Oiso	576P043	8230

7590

06/04/2003

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EXAMINER

HON, SOW FUN

ART UNIT

PAPER NUMBER

1772

8

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-8

# Office Action Summary

Application No.

10/018,851

Applicant(s)

OISO ET AL.

Examiner

Sow-Fun Hon

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Claim Objections*

1. Claim 3 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. In independent claim 1, it is unclear what is meant by the limitation of “on the proviso of excluding the case where all of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> are methyl group or methoxy group and the case where R<sub>1</sub> and R<sub>3</sub> are methyl group and R<sub>2</sub> and R<sub>4</sub> are methoxy group when n is 1, A represents the formula (2) and B represents the formula (4) or a copper complex salt thereof”. Which are the components of the Markush Group? Exactly what is being excluded from the claims? Is the copper complex salt of the above mentioned free acid excluded as well?
5. Claim 3 recites a “polyvinyl alcohol type” which makes it unclear as to what polymers the type group includes.

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6. Claims 4-7 recite a “film/plate for polyvinyl alcohol for a green channel used for a liquid crystal projector”. Is the film/plate made of polyvinyl alcohol which can be used for a green channel used for a liquid crystal projector?

7. Claim 6 recites the claim limitation of a “crossed state at 630 nm to 780 nm”. It is unclear what is meant by the term. Does it mean that the energy state of the photon absorbed is a crossed one? If so, which one is it?

8. Claims 4-8 recite a “green channel”. Does it mean the filter for the transmittance of green light?

***Claim Rejections - 35 USC § 102***

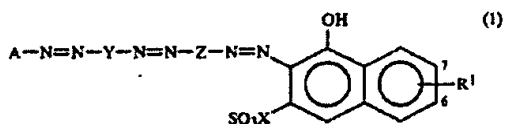
9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Misawa et al. (US 5,446,135). Misawa et al. discloses the water-soluble azo dye below where X as a hydrogen denotes a free acid:

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wherein A means a benzene or naphthalene ring having a sulfone group or a base thereof, Y and Z individually denote a group of the following formula (a);



wherein R<sup>2</sup> is a hydrogen atom, a methyl group, a methoxyl group or an ethoxyl group and R<sup>3</sup> is a methyl, methoxyl or ethoxyl group,

R<sup>1</sup> represents an amino, C<sub>1-4</sub> alkylamino, C<sub>2-4</sub> alkylcarboxyamino, benzoylamino or phenylamino group bonded to the 6 or 7 position of the naphthalene ring, and X denotes a hydrogen, sodium, potassium or lithium atom, with the proviso that Y and Z are different but, when both R<sup>2</sup>s are hydrogen atoms and both R<sup>3</sup>s are methoxyl groups, Y and Z may be the same.

TABLE I

Ex.	A	Y		Z		R <sup>1</sup>	Hue	$\lambda_{max}$ (nm)	Single-plate transmittance (%)	Polarization degree (%)	$\Delta E^*$
		R <sup>2</sup>	R <sup>3</sup>	R <sup>2</sup>	R <sup>3</sup>						
4		CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	OCH <sub>3</sub>		Reddish purple	555	43	98.5	0.8

Misawa et al. teaches that for a maximum absorption wavelength of 555 nm, A (A of applicant) represents formula (2) of Applicant which is a free acid, and R<sub>1</sub> (B of Applicant) represents formula (4) of Applicant wherein the -NH-CO- group containing benzene ring is not further substituted. R<sub>12</sub> of Applicant is thus a hydrogen.

Misawa et al. teaches that the dye is incorporated into polyvinyl alcohol film (column 6, lines 15-30) along with other organic dyes, whereby the film is stretched to form a polarizing film and then laminated to a protective film (column 7, lines 25-70) to form a polarizing plate.

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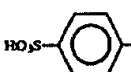
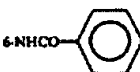
Since the dye in example 4 has a maximum absorption wavelength of 520 nm or more and less than 580 nm (555 nm), it is the examiner's position that the dye has negligible average light transmittance for the crossed state at 520 nm to 580 nm, and an average light transmittance for the crossed state at 630 nm to 780 nm which is 60 % or more, so that the polarizing plate is can be used for a green channel for a liquid crystal projector.

### *Claim Rejections - 35 USC § 103*

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa et al. (US 5,446,135). Misawa et al. has been discussed above, and discloses the water-soluble azo dye.

TABLE I											
Ex.	A	Y		Z		R <sup>1</sup>	Hue	$\lambda_{max}$ (nm)	Single-plate transmittance (%)	Polarization degree (%)	$\Delta E^*$
		R <sup>2</sup>	R <sup>3</sup>	R <sup>2</sup>	R <sup>3</sup>						
4		CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>3</sub>	OCH <sub>3</sub>		Reddish purple	555	43	98.5	0.8

Misawa et al. teaches that for a maximum absorption wavelength of 555 nm, A (A of applicant) represents formula (2) of Applicant which is a free acid, and R<sub>1</sub> (B of Applicant) represents formula (4) of Applicant wherein the -NH-CO- group containing benzene ring is not further substituted by an amino or a hydroxyl group present as R<sub>5</sub> of Applicant. However, since

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Misawa et al. discloses a generic embodiment below of the azo dye with an amine end group, it would have been an obvious variation of the art to have appended an amine end group to the -NH-CO- group containing benzene ring of Misawa et al.



Since the dye in example 4 has a maximum absorption wavelength of 520 nm or more and less than 580 nm (555 nm) with a single plate transmittance of 43 % at said wavelength, it is the examiner's position that the dye has an average light transmittance for the crossed state at 630 nm to 780 nm which is 60 % or more, so that the polarizing plate is can be used for a green channel for a liquid crystal projector.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merrill et al. in view of Misawa.

Merrill et al. has a color liquid crystal projector (LCD) with a dichroic polarizer (column 5, lines 30-45) which has a polyvinyl alcohol film which contains an azo dichroic dye (column 22, lines 55-70).

Merrill et al. fails to teach the specified azo dye.

Misawa et al. has been discussed above, and discloses the polarizing plate comprising polyvinyl alcohol film containing a water-soluble azo dye wherein one embodiment has a maximum absorption wavelength of 555 nm with a single plate transmittance of 43 % at said wavelength.

Because Misawa et al. teaches that the azo dye has a maximum absorption wavelength of 520 nm or more and less than 580 nm (555 nm), and it is the examiner's position that the dye has negligible average light transmittance for the crossed state at 520 nm to 580 nm, and an average

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light transmittance for the crossed state at 630 nm to 780 nm which is 60 % or more, it would have been obvious to one of ordinary skill in the art to have used the polarizing plate of Misawa et al. as the dichroic polarizer in the invention of Merrill et al. in order to obtain a liquid crystal projector with a polarizer which provides the desired negligible average light transmittance for the crossed state at 520 nm to 580 nm to serve as a green channel.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

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Sow-Fun Hon

05/20/03



HAROLD PYON  
SUPERVISORY PATENT EXAMINER

1/1/12

6/2/03